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**Genetic risk for ketosis-prone diabetes in a Cameroonian population: Role of rs4731702(C/T) polymorphism of Kruppel-Like Factor 14 (KLF14) gene, master trans-regulator****Magellan Guewo-Fokeng, Barbara Atogho Tiedeu, Jean Claude Mbanya, Eugene Sobngwi and Wilfred Fon Mbacham**  
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**D**iabetes Mellitus (DM) is rapidly increasing in sub-Saharan Africa. The number of genetic risk variants identified in this region compared to others in the world is very insignificant, with only two (rs7903146 and rs12255372 on TCF7L2 gene) in Cameroon, Type-2 Diabetes Mellitus (T2DM) susceptibility. This study aims to assess the association between rs4731702(C/T) polymorphism of the Kruppel Like Factor 14 (KLF14) gene with Ketosis-Prone Diabetes (KPD) in a Cameroonian population. This will help to create a large genomic research database, improve our understanding of the genetic risk factors for the disease and make a contribution to the plan to personalized medicine. This case-control study included 34 KPD patients and 71 healthy normoglycemic controls who are all unrelated Cameroonian adults (aged $\geq$ 24 years). Demographic, clinical and biological data were collected. Biochemical analyses were performed using a spectrophotometer with Chronolab kits. KLF14 rs4731702 (C/T) genotypes were determined using Polymerase Chain Reaction followed by Restriction Fragment Length Polymorphism (PCR-RFLP). Of the 70.59% KPD patients vs. 30.99% healthy controls, OR=5.345 and  $p<0.0001$ ) the C allele was protective (29.41% KPD patients vs. 69.01% healthy controls, OR=0.187 and  $p<0.0001$ ). The susceptibility to KPD was higher among subjects who had the TT genotype with OR=4.756 and  $p=0.0005$ . This study showed, for the first time, the association between KLF14 rs4731702(C/T) gene polymorphism with KPD in a Cameroonian population. It is a promising target for personalized medicine through the development of clinical genetic testing.

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